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Concentration in the Canadian Financial Sector: The Situation in 1987

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The findings of this paper are the personal responsibility of the author and, as such, have not been endorsed by the Members of the Economic Council of Canada.

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Foreword

The Economic Council of Canada has for many years taken a keen interest in the operation of the Canadian financial system. It recently released a Statement, *A New Frontier* (June 1989) and a Research Report, *Globalization and Canada's Financial Markets* (January 1990) that together present an in-depth analysis of the performance of Canada's financial sector in the context of the internationalization of financial markets and financial innovation, two trends that have become increasingly important in recent years.

To meet the challenges posed by these new forces, the Council has developed recommendations aimed at striking the right balance between, on the one hand, opening our financial markets to foreign competition and ensuring accessibility of financial services across the country, and, on the other, preserving the soundness of our financial institutions and the stability of our financial markets.

In the more general context of the global integration of financial markets, a number of national issues that have long troubled Canadians have once again come to the fore. One of these is the concentration of activities in the hands of a few large institutions and the impact of this situation on competition.

This paper traces the evolution of concentration levels in the Canadian financial services industry over the period 1984-87. It throws new light on the question because of the author's approach – "firm-by-firm" rather than the traditional "industrial group" approach. Under this method, the overlapping activities of institutions that traditionally belonged to distinct groups can better be taken into account.

The author shows that certain diversified financial holding groups (whose assets include, for example, trust companies, insurance companies and credit cooperatives) have succeeded in increasing their market shares. In many markets, however, chartered banks remain the biggest players in a relatively concentrated industry.

Given the present trend towards internationalization in financial markets, institutions operating in highly concentrated domestic markets may still find themselves facing constant competition from foreign rivals. The question of what effect domestic concentration has on competition in highly integrated financial markets in the international arena remains to be answered. This represents a challenge for future research.

In assessing competition and concentration levels in specific financial markets and the potential impact of mergers, acquisitions and alliances, regulatory agencies must take into account competition on the international, as well as the domestic, level.

It should be noted that, while this study was completed under the auspices of the International Finance Group, the findings remain wholly the responsibility of the author and, as such, have not been endorsed by the members of the Economic Council.

Judith Maxwell
Chairman

Abstract

The purpose of this study is to measure concentration in the Canadian financial services industry in 1987 and to analyse developments that have taken place since 1984. It represents an update of a previous study that focused on the period 1967-84. The international and domestic activities of chartered banks, mortgage loan companies, trust companies, financial cooperatives, and life-insurance companies are all considered.

The main conclusion drawn is that the share of the four largest firms (usually Canadian chartered banks) has steadily shrunk in all markets studied except for mortgage loans. At the same time, however, the number of institutions accounting for 80 per cent of total assets in 1987 is lower than that recorded three years earlier.

While the two descriptive measurements used in the study, as well as other statistical measures of concentration, agree that concentration in terms of assets, non-mortgage loans and deposits all declined over the 1979-84 period, such is not the case for the 1984-87 period. The smaller number of firms needed to control 80 per cent of the market and the reduced share of the four largest firms reflect the rapid process of restructuring currently under way in the financial service industry. The wave of mergers and acquisitions recorded during this period was still not enough to increase concentration levels, which remain relatively high. Still, it allowed certain financial holding groups to grow enough to significantly increase their market shares, although not enough (except in the case of the mortgage loan market) to rise to the ranks of the top four firms. Generally speaking, the four leaders continue to be Canadian chartered banks.

Today, non-bank institutions and the financial holding groups to which they belong are better placed, at least in terms of size, to compete with Canadian banks than they were just a few years ago. One of the conclusions of the earlier study was that the decline in concentration levels may prove to be short-term if financial holding groups' rate of expansion increases significantly through mergers and acquisitions. The present study indicates that this process has already begun.

READER'S NOTE

The reader should note that various conventional symbols similar to those used by Statistics Canada have been used in the tables:

..	figures not available
...	figures not appropriate or not applicable
--	amount too small to be expressed
-	nil or zero
e	estimated figures.

Details may not add up to totals because of rounding.

It should also be noted that the data used by the author to estimate concentration levels, as presented in Tables 4 through 12 and Charts 2 through 5, were derived primarily from the following documents: the *Canada Gazette*; *Report of the Superintendent of Financial Institutions Canada*; reports of the Inspector of Insurance for various provinces; the Canadian Co-operative Credit Society, *List of the 100 Largest Local Credit Unions in Canada*; and various corporate annual reports. In addition, unpublished data were supplied by the Mouvement Desjardins (list of 100 largest caisses populaires) and by the Superintendent of Financial Institutions (breakdown of total vs. domestic assets).

Introduction

Over the past 20 years, the assets of Canadian financial institutions have grown extremely rapidly. In 1967, the assets of the financial service industry totalled just over $75 billion. By 1987, they were $950 billion – an annual growth rate of 13.6 per cent. By way of comparison, the annual growth rate of non-financial corporations' assets (termed "phenomenal" by Statistics Canada) was 11 per cent over the 1965-86 period.[1] Since 1967, the financial system has undergone extensive restructuring, particularly since the early 1980s. Among other developments, there was a strong expansion in financial holding groups, whose organizational structure can accommodate a wide variety of financial institutions. The assets of financial holding groups increased almost 23 per cent a year between 1979 and 1987, compared with only 10 per cent for financial intermediaries as a whole. These developments have raised considerable concern as to their potential impact on concentration in the financial sector.

The purpose of this study is to measure concentration in the Canadian financial services industry in 1987 and to analyse the developments that have taken place since 1984. It represents an update of a previous study that focused on the period 1967-84. Since 1984, changes in the regulatory framework have allowed cross-ownership of certain types of financial institutions, and the push to diversify has led many Canadian institutions to take over or merge with others and to strike alliances. But has the restructuring of the financial system produced greater concentration in the financial service industry?

This study is divided into three sections. The first briefly explains the methodology used and summarizes the main findings of the original study. The second section traces the often stormy history of the industry from 1984 to 1987. The third and longest section of the study presents estimated concentration levels for assets, mortgage loans, other loans, and deposits in 1987 and compares these figures with those obtained for the year 1984.

The reason that the degree of concentration is a perennial subject of concern is that, according to classical economic theory, any concentrated industry automatically suffers from non-competitive behaviour.

This lack of competition leads to higher costs, less consumer choice, and declining innovation.

However, even accepting what some have viewed as a redundancy – namely, that a concentrated industry is generally composed of large firms – there are a number of positive aspects to a concentrated industry that may at least partially offset the adverse effects of reduced competition. Large size may confer upon a firm the advantages of economies of scale and of scope.[2] Extensive

financial resources may also allow an institution to invest more easily in new technologies. It is also possible that large and heavily diversified financial institutions may be better able to weather the inherent instability of certain markets. In theory, diversification tends to reduce non-systemic[3] risk without sacrificing profitability, but diversification is more difficult for smaller firms. It should also be noted that large size may confer a competitive advantage on an institution operating in the international market, where the major players are all very large.

It should also be added that, conventional wisdom to the contrary, high concentration does not necessarily entail reduced competition. According to the theory of "contestable markets," firms in a concentrated market act competitively as long as the industry has no entry or exit barriers.

Last, it should be noted that in the current context of market internationalization, financial institutions operating in highly concentrated domestic markets may still be continually exposed to the threat of foreign competition.

Methodology and Summary of Results for the Period 1967-84

The methodology used here to measure concentration in the finance service industry in 1987 is identical to that used in the original study covering the period 1967-84,[4] although a number of additional calculations were made in the present study. The earlier study includes a detailed description of its methodology and limitations; a summary of the most important points for understanding the analysis in this paper is presented below.

Three types of concentration are examined: assets concentration, market concentration (mortgage loans, other loans, and deposits), and ownership concentration. While assets concentration tells us something about the power wielded by financial institutions because of their size, the degree of market concentration gives a better indication of their ability to control the prices, quantities, and characteristics of the services offered. The concept of ownership concentration was not used in the original study. Because the question of ownership concentration, particularly with respect to the ownership of financial institutions by commercial firms, has come under the spotlight of public debate in recent years, we decided that additional calculations of this kind should be made for the years 1984 and 1987. A sector may be very concentrated in terms of total assets and/or market concentration, yet much less concentrated in terms of ownership when the share capital of large firms is widely held.

The basic unit commonly used in studies of concentration in the financial system is the institutional group. For example, one might investigate the

market share of banks as a whole. Using this approach when the relative sizes of the main groups of financial institutions are known yields the results shown in Table 1. It is clear that banks hold the lion's share of total assets, loans and deposits. It is also noteworthy that trust companies and local savings and credit unions have made large gains since 1967, primarily at the expense of life-insurance and finance companies. Yet today it is common for firms from different institutional categories to be competing in the same markets. That is why this study adopts a "firm-by-firm" approach. This involves ranking the selected units by size, regardless of the institutional group to which they belong, in order to determine to what extent activity is concentrated in the hands of a small number of large units.

Measurements of Concentration

Four ways of measuring assets and market concentration were used: the concentration ratio, the inverse relation index, the Herfindahl index, and the Gini coefficient.

> The concentration ratio (CR) reflects the relative market shares of the largest companies. It expresses the percentage of the industry's production value (in terms of total assets, mortgage loans, etc.) that is divided among the 4, 8, 12, 20, and 50 largest institutions (CR4, CR8, etc.). The inverse relation index represents the number of corporations controlling 80 per cent of the production value of the industry. The higher the index, the lower the concentration. The Herfindahl index is the sum of the squares of the sizes of all companies expressed as a percentage of the overall size of the industry. The figure may range from 100 (when the industry contains but a single firm) to 0 (the lower limit approached when the industry contains an extremely large number of institutions of the same size). The higher the Herfindahl index, the higher the industry concentration.
>
> None of these measurements in itself is completely satisfactory. The concentration and inverse relation ratios do not take into account the total number of firms in an industry, nor their distribution in terms of relative size. The Herfindahl index, on the other hand, lumps these two factors into a single figure, but does not indicate, as do the other two indices, the market share of the leading companies. Thus it appears that the use of all three measurements is warranted.[3]

As we shall see later on, these three measurements indicate that the various concentration levels generally followed similar paths over the period 1967-84. Over the 1984-87 period, however, the measurements yield some contradictory results, necessitating the use of an additional index (the Gini coefficient). This index is commonly used in studies of the wealth distribution among individuals and households. Compared with the Herfindahl index, it has the advantage of being independent of variation in the number of firms over time. In the case we are interested in, it serves to measure inequality in the distribution of financial institutions' assets, mortgage loans, other loans,

Table 1

Relative Size of Major Types of Financial Institutions, Per Cent, 1967, 1979, 1984, and 1987[1]

	Total assets				Mortgage loans			
	1967	1979	1984	1987	1967	1979	1984	1987
Chartered banks (Schedules A and B)	42.2	54.3	56.2	51.4	6.6	22.6	30.8	35.4
Trust companies	5.8	7.9	8.1	9.5	18.9	27.6	27.2	29.4
Mortgage loan companies[2] not associated with banks	3.7	2.5	1.2	0.6	16.2	9.7	4.2	0.9
Local credit unions	4.5	6.4	5.6	5.8	7.6	15.4	15.9	14.6
Central credit unions	0.6	1.2	1.4	1.4	0.3	0.3	0.2	0.1
Financing companies	6.0	3.3	2.0	2.1	..	1.2	0.5	0.3
Financial leasing companies	..	0.4	0.4	0.5	..	-	-	-
Business financing companies	..	2.0	1.0	0.8	..	0.9	0.3	0.3
Investment companies[3]	3.7	1.1	1.3	3.1	0.1	1.6	1.0	1.5
Life-insurance companies	23.4	10.4	11.3	12.7	47.0	15.5	15.8	15.0
Segregated funds in life insurance	..	1.3	1.4	1.6	..	1.3	1.0	0.6
General insurance companies	3.1	2.4	2.3	2.7	0.2	0.4	0.3	0.3
Investment dealers	1.0	1.5	1.4	1.6	...	...	...	...
Trusteed pension plans[4]	6.1	5.1	6.2	6.1	..	3.3	2.4	1.4

Table 1 (cont'd.)

	Commercial loans				Consumer loans			
	1967	1979	1984	1987	1967	1979	1984	1987
Chartered banks (Schedules A and B)	99.4	88.6	84.2	85.6	55.2	71.5	70.3	72.5
Trust companies	..	0.6	2.0	2.6	..	2.5	5.3	8.7
Mortgage loan companies[2] not associated with banks	..	0.3	1.1	0.1	..	0.2	2.5	0.2
Local credit unions	0.4	0.7	2.7	5.3	16.8	17.0	14.3	13.3
Central credit unions	0.2	0.4	1.1	1.6	...	...	...	...
Financing companies	..	6.9	2.9	0.2	20.0	4.2	1.8	1.2
Financial leasing companies	..	0.4	0.1	0.4	...	...	...	...
Business financing companies	..	8.2	6.0	4.4	..	--	--	--
Investment companies[3]	...	...	...	...	...	...	...	...
Life-insurance companies	...	...	...	...	7.9	4.5	5.8	4.1
Segregated funds in life insurance	...	...	...	...	...	...	...	...
General insurance companies	...	...	...	...	...	...	...	...
Investment dealers	...	...	...	...	...	...	...	...
Trusteed pension plans[4]	...	...	...	...	...	...	...	...

Table 1 (cont'd.)

	Consumer and commercial loans				Total deposits			
	1967	1979	1984	1987	1967	1979	1984	1987
Chartered banks (Schedules A and B)	78.1	81.4	78.7	79.5	75.0	66.1	64.7	61.1
Trust companies	..	1.4	3.3	5.4	15.1	16.3	18.3	22.1
Mortgage loan companies[2] not associated with banks	..	0.3	1.6	0.1	7.9	3.6	2.4	1.6
Local credit unions	8.3	7.6	7.2	9.0	0.7	11.9	12.5	12.9
Central credit unions	0.1	0.2	0.7	0.8	1.3	2.1	2.2	2.2
Financing companies	9.7	2.2	2.5	0.7	...	...	...	...
Financial leasing companies	..	0.2	--	0.2	...	...	...	...
Business financing companies	..	4.7	3.6	2.3	...	...	...	...
Investment companies[3]	...	...	...	...	...	...	...	...
Life-insurance companies	3.8	1.9	2.3	1.9	...	...	...	...
Segregated funds in life insurance	...	...	...	...	...	...	...	...
General insurance companies	...	...	...	...	...	...	...	...
Investment dealers	...	...	...	...	...	...	...	...
Trusteed pension plans[4]	...	...	...	...	...	...	...	...

Table 1 (concl'd.)

1 Figures may not total to 100 per cent because of rounding.
2 The wide variation in certain entries between 1984 and 1987 is due to the merger in early 1986 of two trust companies and two mortgage loan companies to form a completely new legal entity that is included under "trust companies."
3 Investment companies include mutual funds and fixed-capital investment companies.
4 Based on 1986 data.

Source *Bank of Canada Review*, various years; Statistics Canada, *Financial Institutions, Financial Statistics*, Cat. 61-006, various years; Statistics Canada, *Trusteed Pension Plans*, Cat. 74-201, various years; Report of Superintendent of Insurance for Canada, trust and lending institutions, various years.

and deposits. It varies from 0, when there is complete equality or zero concentration, to 1, when there is complete concentration.[6]

Ownership concentration was measured with a simple descriptive classification. The assets of the four largest financial institutions were classed according to four ownership categories: Canadian and widely held; Canadian and closely held with no commercial links; Canadian and closely held with commercial links; and foreign.

Data Banks

The previous study dealt with the years 1967, 1979, and 1984.[7] The present study focuses on the year 1987, the last year for which reasonably complete firm-by-firm data are available.

Because of certain problems with data availability for the years 1967 and 1979, and in order to ensure comparable results over time, four different data banks were used.

Data Bank A covers chartered banks, trust companies, mortgage loan companies, and life-insurance companies. As shown in Table 2, these institutions increased in number by 52 per cent between 1967 and 1987. Almost 45 per cent of this increase was due to the establishment of Canadian subsidiaries of foreign banks in the early 1980s. In 1987, there were 8 Canadian-owned and widely held Schedule A banks, 1 Schedule B bank (closely held), 58 foreign Schedule B banks, 100 trust companies, 40 loan companies, and 174 life-insurance companies.

Data Bank B adds the 100 largest caisses populaires and the 100 largest credit unions, and Data Bank D widens this to *all* caisses populaires (not simply the 100 largest). Data Bank C also includes all caisses populaires but excludes credit unions.

Coverage of the financial system as a whole varies according to the data bank, the range of activities, and the year (Table 3). It is consistently above 75 per cent and in some cases exceeds 90 per cent.

Data were collected from the corporate charters of each of the institutions and were aggregated at three levels. At the highest, Level 3 (full ownership links within a holding group), all corporations controlled by the same financial holding group were aggregated and treated as a unit. For the purposes of the study, a diversified financial holding group is considered to be a group of firms consisting of a holding company that controls at least two different kinds of financial institutions among the five categories of institutions used in this study.[8]

Table 2

Number of Banks, Trust Companies, Mortgage Loan Companies, and Life-Insurance Companies in Canada, 1967, 1979, 1984, and 1987

	Federally incorporated institutions				
	Domestic	Foreign	Nfld.	P.E.I.	N.B.
1967					
Banks	8	...	...	...	...
Trust companies	9	...	-	-	1
Mortgage loan companies	12	...	-	-	-
Life-insurance companies	41	81	-	-	-
Total	70	81	-	-	1
1979					
Banks	11	...	...	...	...
Trust companies	25	...	-	11[3]	-
Mortgage loan companies	28	...	-	-	-
Life-insurance companies	58	95	-	-	3
Total	122	95	-	11	3
1984					
Banks					
Schedule A	13	...	...	...	...
Schedule B	1	58	...	...	...
Trust companies	36	...	-	14[3]	-
Mortgage loan companies	32	...	-	1	-
Life-insurance companies	62	93	-	-	2
Total	202	93	-	15	2
1987					
Banks					
Schedule A	8	...	...	...	...
Schedule B	1	58	...	...	...
Trust companies	32	...	1	14[3]	-
Mortage loan companies	30	...	2	-	-
Life-insurance companies	56	94	-	-	2
Total	127	152	3	14	2

Table 2 (cont'd.)

	Provincially incorporated institutions[1]								
	N.S.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	All provinces	Total
1967									
	...	...	...	...	...	...	...	...	8
	3	18	17	5	3	4	2	53	62
	1	3	11	-	-	-	-	15	27
	-	22	6	-	-	-	3	31	153
	4	43	34	5	3	4	5	99	250[2]
1979									
	...	...	...	...	...	...	...	...	11
	2	20	20	6	3	5	3	70	95
	1	3	10	-	-	-	-	14	42
	-	20	4	-	-	2	1	30	183
	3	43	34	6	3	7	4	114	331[2]
1984									
	...	...	...	...	...	...	...	...	13
	...	...	...	...	...	...	...	...	59
	1	18	16	3	4	5	3	64	100
	1	3	7	1	-	-	-	13	45
	-	16	4	-	-	1	2	25	180
	2	37	27	4	4	6	5	102	397[2]
1987									
	...	...	...		...	...	...		8
	...	...	...	...	...	...	...	...	59
	4	16	16	3	4	5	5	68	100
	1	1	6	-	-	-	-	10	40
	-	16	4	-	-	1	1	24	174
	5	33	26	3	4	6	6	102	381

Table 2 (concl'd.)

1 In accordance with an agreement between the federal government and the provincial governments of Nova Scotia, Manitoba, and Prince Edward Island, the trust and loan companies incorporated in these provinces are under the supervision of the federal government.
2 The Montreal City and District Savings Bank was also included in the concentration study. Thus the study covers 251, 332 and 398 institutions in 1967, 1979 and 1984, respectively. In 1987, this institution was purchased by the Laurentian Group and became the Laurentian Bank (Schedule B). This bank is included in the 381 institutions covered. In 1984 and 1987, the 100 largest caisses populaires and the 100 largest credit unions were also included, meaning that 598 and 581 institutions were covered in those years, respectively.
3 Trust companies in Prince Edward Island do not accept deposits.

Source The *Canada Gazette*, reports of the Superintendent of Financial Institutions and the Inspector of Insurance for each province.

Table 3

Overall Coverage of Financial System by Database,[1] Per Cent, 1967, 1979, 1984, and 1987

	1967	1979		1984				1987			
	Database	Database		Database				Database			
	Type A	Type A	Type C	Type A	Type B	Type C	Type D	Type A	Type B	Type C	Type D
	(Per cent)										
Total assets	75.1	76.4	79.3	78.2	80.7	80.8	82.6	74.2	77.2	77.2	79.3
Mortgage loans	88.7	76.7	84.0	79.0	..	86.4	..	81.3	..	89.2	..
Other loans	81.9	85.0	87.8	85.9	..	89.6	..	86.9	..	92.0	..
Deposits	98.0	86.0	91.6	85.4	..	91.4	..	84.8	..	91.4	..

1 Database - Type A: Chartered banks, trust companies, mortgage loan companies, and life-insurance companies.
Database - Type B: Chartered banks, trust companies, mortgage loan companies, life-insurance companies, 100 largest caisses populaires, 100 largest credit unions.
Database - Type C: Chartered banks, trust companies, mortgage loan companies, life-insurance companies, all caisses populaires (no credit unions).
Database - Type D: Chartered banks, trust companies, mortgage loan companies, life-insurance companies, all caisses populaires, 100 largest credit unions.

Source Table 1 and Table A of the Appendix.

While this classification is best suited to measuring concentration, since the ultimate owner is taken into account, two other intermediate aggregation levels were also used – obvious links (Level 1) and full links (Level 2). The goal was, among other things, to ensure comparable results over time and to take into account the fact that component firms of the same financial holding group can find themselves in competition with each other. Calculations were made on the basis of worldwide and domestic[9] activities with and without estate, trust, and agency business. The various series of calculations are summarized in Appendix Tables B-1 and B-2.

Concentration Trends, 1967-84: A Summary

The financial service industry, which was dominated during the period in question by chartered banks, was in 1967 and remained in 1984 relatively concentrated in terms of total assets. After intensifying from 1967 to 1979, assets concentration declined slightly from 1979 to 1984. This decline may be attributed primarily to the entry of foreign banks following the 1980 amendments to the Bank Act. In the original study, however, we concluded that the trend towards declining assets concentration that appeared in the 1979-84 period may prove short-lived as financial holding groups expand even faster through mergers and acquisitions.

Concentration levels were relatively low in the mortgage loan market, relatively high in the deposits market, and high in the loans other than mortgages market. According to all indices, however, concentration declined in these last two markets and rose in the mortgage loan market over the study period. The primary reason for this increase appears to be the massive influx of chartered banks into the mortgage loan market (see Table 1) following the 1967 amendments to the Bank Act, which not only removed interest rate ceilings but allowed banks to offer standard mortgage loans. Nevertheless, in 1984, concentration in the mortgage loan market remained lower than in the other markets. For comparison purposes, estimated concentration levels for the years 1967, 1979, and 1984 are summarized in a table with the estimates for 1987.

Capsule History of the Canadian Financial System: 1984-87

Faced with the gradual erosion of the traditional boundaries between the four pillars of the financial system, the rise of financial holding groups, and the increasing internationalization of financial transactions, the federal government announced its intention to amend the regulation of financial institutions in its November 1984 Economic Renewal Program. It was clear that regulation had not kept pace with the rapid developments in the financial

system. In April 1985, the government released a working paper entitled "The Regulation of Canadian Financial Institutions" (Green Paper) with the goal of stimulating public debate and beginning the process that would eventually lead to legislative changes in the financial system. In the course of this debate, the financial system was disturbed by a series of events that may have influenced its concentration levels from 1984 to 1987.

The most important of these events was undoubtedly the bankruptcies in mid-1985 of the Canadian Commercial Bank and the Northland Bank, both western-based "regional" Canadian banks. Although these banks were relatively small compared with other Canadian banks, they still placed 28th and 42nd respectively in a 1984 survey of 343 institutions (Data Bank C – highest ownership level).

Not only did 1984 mark the first bank failures in Canada in 60 years, the same year also saw five trust and loan companies and two general insurance companies declare bankruptcy.[10]

In 1984, there were 14 Canadian-owned chartered banks. By 1987, there were only nine. Besides the bank failures noted above, Morguard, a closely held bank, was taken over in 1985 by Security Pacific Bank, a foreign Schedule B bank, and in 1986 the Mercantile Bank was bought out by the National Bank of Canada. In 1987, two foreign-owned subsidiaries – Lloyds Bank and the Hongkong Bank – each bought up most of the assets of a widely held bank in financial difficulty – the Continental Bank of Canada and the Bank of British Columbia, respectively. By 1987, Lloyds Bank and the Hongkong Bank had become the two largest foreign banks operating in Canada, ranking 21st and 27th respectively among the 311 institutions included in our study (Data Bank C – highest ownership level).

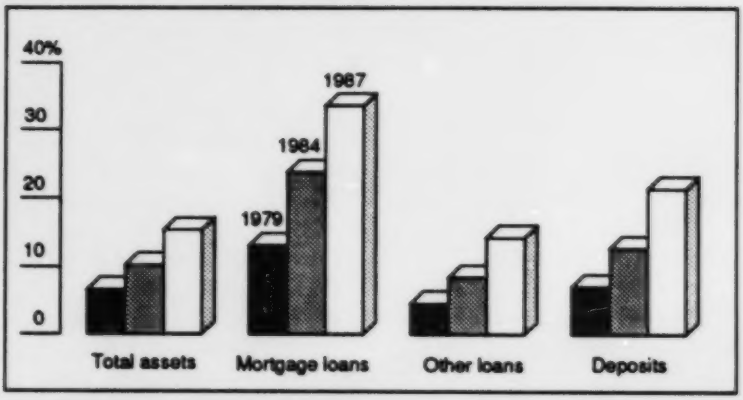
While the 1984-87 period witnessed the disappearance of several Canadian chartered banks, there was one new arrival on the scene – the Laurentian Bank. In 1987, the Laurentian Group increased its participation in the Montreal City and District Savings Bank, the forerunner of the Laurentian Bank, and the legal status of the institution was changed to a chartered Schedule B bank. This marked the first time a Canadian financial holding group had acquired a commercial banking establishment. As a result of this takeover (and some other factors), the Laurentian Group experienced phenomenal growth. Yet this financial holding group was not the only one to undergo rapid expansion.

The 1987 survey found 11 financial holding groups that owned companies from at least two different institution categories from among those used in this study (Appendix Tables C-1 and C-2). Their assets amounted to more than $135 billion, or more than 15 per cent of the total assets of the financial

industry as a whole[11] (Chart 1). In 1979, this figure was just over 6.5 per cent. There were only seven financial holding groups at that time: in order of size, the Desjardins Group, the Power Financial Corporation, the Traders Group, the Crown Financial Group, the Laurentian Group, Eaton Financial Services, and the Prêt et Revenu Group.

Chart 1

Shares of Diversified Financial Holding Groups in Total Assets, Loans, and Deposits of All Financial Institutions, 1979, 1984, and 1987



A new financial holding group was created in 1982: the Trilon Financial Corporation. Its assets included two major financial institutions – the Royal Trustco Ltd. and the London Life Insurance Co. This brought the number of financial holding groups to eight, all together accounting for more than 10 per cent of the industry's assets. It should be noted that the Royal Trust is the only Canadian trust company to have expanded significantly beyond Canada's borders; it maintains a real presence in the major European financial centres and in the Pacific Rim.

Between 1984 and 1987, five new diversified financial holding groups appeared and two others were taken over by two other holding groups. Eaton Financial Services was acquired by the Laurentian Group in 1986, and in 1987 the Traders Group, which included the Guaranty Trust, was acquired by the Central Capital Corporation (formed in 1984), which consequently became a diversified financial holding group according to the definitions of the present study. The four other new financial holding groups were the Industrial-Alliance Group, the Metropolitan Life Insurance Co., the Financial Trustco and the Cooperators. Naturally, these institutions all existed prior to 1984, but they became diversified financial holding groups in that year. In 1987, the Industrial-Alliance Financial Corporation (life insurance) increased its

interest in a major trust company, General Trust of Canada, to 63 per cent. In 1986, the Metropolitan Life Insurance Co. acquired the Morguard group of institutional investors and began commercial trust operations in 1987. In 1986, the Financial Trustco acquired the Morgan Bancorp Inc. This takeover netted the Morgan Trust, the Westbury Life, and NFBC Financial Services Ltd. In 1987, the Financial Trustco obtained a majority interest in Walwynn Inc., an investment dealer. It should be noted that by 1988, however, the Financial Trustco had fallen into financial difficulty and was bought out by the Central Guaranty Trustco, which in turn belongs to the Central Capital Corporation. Finally, in the spring of 1985 the Cooperators Group (insurance) became the principal stockholder of the Guardian Trustco Inc., thus ascending to the ranks of diversified groups.

In 1987, five of the 11 financial holding groups had assets exceeding $10 billion. The Desjardins Group had assets of over $30 billion; included among its holdings are the caisses populaires and the "caisse centrale," federations, confederations, the Desjardins Group of life-insurance companies, Assurance-vie Desjardins, La Sauvegarde Assurance-vie, the Fiducie du Québec, the Société d'investissements Desjardins, the Crédit industriel Desjardins, etc. The assets of the Trilon Financial Corporation, whose major holdings include the Royal Trustco, the London Life, and the Wellington Insurance Co., amounted to $27 billion, and those of the Power Financial Corporation, which includes the Montreal Trustco, the Great-West Life, and the Investors Group, to $26 billion.[12] In 1986, Montreal Trust acquired the Crédit Foncier, one of the oldest mortgage loan companies in Canada, as well as the residential mortgage business of the Bank of America Canada (a Schedule B bank). The assets of the Central Capital Corporation (the Central Trust Company, the Guaranty Trust Co. of Canada, the Mortgage Insurance Company of Canada, the Canadian General Insurance Group, etc.) amounted to $12.5 billion, while those of the Laurentian Group were $11 billion. One of its holdings, the Laurentian Group Corporation, includes, notably, the Laurentian Mutual Management Corporation, as well as the Imperial Life Assurance Company, the Laurentian Life Insurance Company, and the Laurentian Bank of Canada.

In terms of markets, financial holding groups mainly dominate the mortgage loan markets (Chart 1). The Desjardins Group, the largest financial holding group, is very active in this market, principally through its caisses populaires. All the other holding groups include a trust company among their assets. Trust companies are much more active in mortgage lending than in other types of loans, since outside of mortgages they have to contend with regulations restricting their activities.

From the point of view of acquisitions and mergers, the case of Canada Trust and Canada Permanent Mortgage Corporation was noteworthy. In 1985, Genstar, a corporation active in financial services, industrial services,

construction material manufacturing, and real estate development, acquired the last major widely held trust company – Canada Trust – and merged it with its wholly owned subsidiary – Canada Permanent Mortgage, one of the major players in the mortgage loan market. In March 1986, Genstar was acquired by Imasco, one of the largest Canadian producers of consumer products and services. This event triggered a new round in the debate over the concentration of power and prompted public concern about the advisability of allowing links between financial and commercial corporations.

In late 1986, the federal government tabled its "Blue Paper" entitled *New Directions for the Financial Sector*. This document indicated the government's intention to severely restrict financial-commercial links and to require significant minority participation in the event of commercial links. Among other things, the government proposed broadening the powers of trust, loan, and insurance companies to extend consumer and business credit. Financial institutions would also be given the option of affiliating with other financial institutions through a holding company. While this option is already open to (non-mutual) insurance companies and trust companies, it would be new for banks. If this proposal is adopted, assets concentration will likely increase.

Since this policy statement, very little has happened, mainly because the proposals concerning financial institution ownership roused a storm of protest. The only proposal concerning broader powers that has been implemented concerns the ownership of investment dealer subsidiaries by financial institutions. Since 1 July 1987, Canadian financial institutions have been able to own 100 per cent of the stock of an investment firm. All of Canada's major banks have now acquired investment dealer subsidiaries, either through acquisition or establishment. There are very few major independent investment dealers left.

The Government of Quebec has a head start when it comes to deregulation. It amended its insurance legislation in 1984 and its trust company legislation in 1987 to broaden the direct powers of these institutions, as well as the range of activities in which they may engage through subsidiaries.

This brief historical outline serves to illustrate the process of restructuring under way in the financial system in Canada. At first glance, it might appear that concentration increased over the period 1984-87. The following section examines this question in greater depth using quantitative estimates.

Estimated Levels of Concentration: 1984-87

The estimated levels of concentration are presented under three categories: total assets concentration, market concentration, and ownership concentration.

Assets Concentration

Regardless of the ownership level and data bank used, the share of assets held by the country's four largest financial institutions (all Canadian-owned banks) fell steadily from 1984 to 1987 (Table 4). Using ultimate ownership and the most complete data bank, which makes it possible to compare results since 1979 (Type C), the share of the four largest companies fell by 5 percentage points between 1984 and 1987 to reach 45.4 per cent of total assets. Despite the drop, the Canadian financial sector still showed relatively high assets concentration in 1987.

For comparison purposes, concentration levels in the 33 main non-financial industries are presented in Appendix Table D. The financial system appears to be relatively more concentrated than most of these sectors. In 1986, for example, only nine of the 33 sectors had higher CR4 ratios than the financial services industry.

For the 1979-84 period, the three concentration indices (concentration ratio, Herfindahl index and inverse relation index) all pointed to the same conclusion, i.e., declining concentration. This is not true of the 1984-87 period. Where the decline in the share of the four largest companies and the fall in the Herfindahl coefficient indicate declining concentration, the inverse relation coefficient recorded a drop, indicating increased concentration. Evidence that the financial services industry experienced a period of rapid restructuring during the 1984-87 period is provided by the reduction in the number of firms accounting for 80 per cent of the market (from 16 to 14) and the diminishing market share of the four largest firms. The recent wave of mergers and acquisitions appears to have allowed diversified financial holding groups to expand enough to significantly increase their collective market share without any of their number ascending to the ranks of the four largest firms. In other words, on the basis of world assets exclusive of estate, trust, and agency business (ETA) administered by trust companies, certain non-bank institutions grew more rapidly in terms of assets than the four largest banks while not surpassing them in size.

When funds administered on behalf of others (ETA) are included in trust company assets, the relative size of these firms increases substantially. In fact, one diversified financial holding group (which includes, among other things, a trust company) enters the ranks of the four largest in 1987, displacing a bank. This confirms the rising importance of diversified financial holding groups. As in the previous case (where ETA business was excluded), both the share of the four largest companies and the number of firms accounting for 80 per cent of the market fell (Table 5). The Herfindahl coefficient rose slightly, agreeing with the inverse relation index that concentration had increased slightly.

Table 4

Concentration Indices in the Financial Sector,[1] Total Worldwide Assets - Without ETA, 1967, 1979, 1984, and 1987

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Obvious ownership links without CP,[2] without CU[3]								
1967	46.4	64.1	72.9	83.9	95.9	6.93	17	relatively high
1979	54.8	73.1	79.6	87.1	96.5	9.07	13	relatively high
1984	52.2	68.0	74.9	83.0	93.5	8.07	17	relatively high
1987	47.2	65.9	75.4	84.3	93.8	7.10	16	relatively high
with 100 CP, 100 CU								
1984	50.5	65.9	72.6	80.4	90.7	7.59	20	relatively high
1987	45.8	63.9	73.0	81.7	91.0	6.66	18	relatively high
Full ownership links without CP, without CU								
1979	54.8	73.1	79.6	87.1	96.6	9.07	13	relatively high
1984	52.2	68.0	74.9	83.0	94.0	8.07	17	relatively high
1987	47.2	65.9	75.4	84.9	94.2	7.11	16	relatively high
with 100 CP, 100 CU								
1984	50.5	65.9	72.6	80.4	91.1	7.59	20	relatively high
1987	45.8	63.9	73.1	82.2	91.3	6.68	18	relatively high

Table 4 (concl'd.)

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Full ownership links and financial holding groups without CP, without CU								
1979	54.8	73.0	80.0	87.5	97.0	9.07	12	relatively high
1984	52.2	68.9	76.4	84.3	94.7	8.13	16	relatively high
1987	47.2	67.1	77.7	87.4	95.3	7.25	14	relatively high
with 100 CP, 100 CU								
1984	50.3	66.4	73.7	81.6	93.8	7.61	19	relatively high
1987	45.8	65.0	75.3	85.7	94.7	6.83	16	relatively high
Desjardins Group only without CU								
1979	53.1	72.1	79.5	87.5	97.1	8.63	13	relatively high
1984	50.4	68.4	76.2	84.5	94.9	7.75	16	relatively high
1987	45.4	65.4	77.6	87.6	95.5	6.88	14	relatively high
with 100 CU								
1984	49.1	66.6	74.3	82.4	94.2	7.39	18	relatively high
1987	44.5	64.2	76.0	85.9	95.0	6.62	15	relatively high

1 As defined in this study.
2 CP: Caisses populaires.
3 CU: Credit unions.

Table 5

Concentration Indices in the Financial Sector,[1] Total Worldwide Assets - With ETA, 1967, 1979, 1984, and 1987

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Obvious ownership links without CP,[2] without CU[3]								
1967	37.3	58.8	69.5	81.9	95.5	5.34	19	relatively high
1979	46.2	67.7	76.4	84.3	96.1	7.07	16	relatively high
1984	42.2	63.3	73.1	81.6	93.6	6.17	19	relatively high
1987	36.7	60.8	73.3	83.9	94.6	5.52	16	relatively high
with 100 CP, 100 CU								
1984	41.1	61.7	71.2	79.5	91.3	5.83	21	relatively high
1987	35.8	59.4	71.6	81.9	92.4	5.26	19	relatively high
Full ownership links without CP, without CU								
1979	46.2	67.7	76.4	84.3	96.2	7.07	16	relatively high
1984	42.2	63.4	73.1	81.8	94.0	6.17	19	relatively high
1987	36.7	60.9	73.4	84.9	95.1	5.55	16	relatively high
with 100 CP, 100 CU								
1984	41.1	61.8	71.2	79.7	91.6	5.84	21	relatively high
1987	35.8	59.5	71.7	82.9	92.9	5.29	18	relatively high

Table 5 (concl'd.)

		Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
		CR4	CR8	CR12	CR20	CR50			
Full ownership links and financial holding groups without CP, without CU									
	1979	46.2	68.3	77.9	85.6	96.8	7.16	14	relatively high
	1984	42.2	65.1	75.6	84.0	94.8	6.38	16	relatively high
	1987	37.6	63.4	76.5	88.2	96.2	5.90	14	relatively high
with 100 CP, 100 CU									
	1984	41.0	63.2	73.4	81.6	93.8	6.02	19	relatively high
	1987	36.7	61.9	74.6	86.1	95.7	5.64	15	relatively high
Desjardins Group only without CU									
	1979	45.0	66.5	77.7	86.0	96.8	6.91	14	relatively high
	1984	41.0	63.6	76.0	84.4	94.9	5.17	15	relatively high
	1987	36.4	61.6	76.5	88.5	96.4	5.73	14	relatively high
with 100 CU									
	1984	40.2	62.3	74.4	82.7	94.1	5.93	17	relatively high
	1987	35.9	60.6	75.4	87.2	95.9	5.57	15	relatively high

1 As defined in this study.
2 CP: Caisses populaires.
3 CU: Credit unions.

When only assets held in Canada are considered rather than worldwide assets, the share of the top four companies (still all banks) falls to only 40 per cent of domestic assets (Table 6). Between 1984 and 1987, the CR4, the Herfindahl coefficient, and the inverse relation coefficient all fell, as was the case for total assets without ETA. Once again, the first two of these indices indicate declining concentration, while the third index indicates an increase.

When ETA business is added to the trust companies' domestic assets, not one but two non-bank corporations enter the ranks of the four largest companies in 1987, displacing two banks. As in 1984, in 1987 the top four firms accounted for almost 36 per cent of domestic assets without ETA (Table 7). The Herfindahl coefficient and the inverse relation index point to an increase in concentration.

To summarize, when international or domestic assets without ETA are considered, the concentration indices give mixed results on concentration trends between 1984 and 1987. When assets are deemed to include ETA, the situation is clearer; there seems to have been a slight increase in concentration.

In an attempt to clarify the situation with respect to assets without ETA, an additional index – the Gini coefficient – was calculated for the period 1984-87, as well as for the period 1967-1984, data permitting (1979-84 otherwise). The results are shown in the left-most bar of Charts 2, 3 and 4, which are found at the end of the section "Market Concentration."

The Gini coefficient shows that the concentration of total and domestic assets declined between 1984 and 1987, as well as between 1979 and 1984, although the decline was less pronounced in 1984-87 than in 1979-84.

Market Concentration

Our study of the *mortgage loan* market reveals that in 1987, as in 1984, concentration was relatively lower in this market than in most other financial markets. The four largest companies – two Canadian banks and two diversified financial conglomerates – account for just under 35 per cent of the mortgage market at the highest ownership level (Table 8). It should be noted, however, that unlike the other markets studied, all indices agree that concentration increased in the mortgage loan market over the period (Table 8, and Charts 2 and 4). The rise of financial holding groups and the merger of two of the major players on the market (Canada Trust and Canada Permanent Mortgage, after one of them was acquired by a commercial conglomerate) appear to have been a factor in the increased concentration. Banks have traditionally played a relatively less important role in this market than in the "other loans" and deposit markets, where the top four firms are almost always banks.

Table 6

Concentration Indices in the Financial Sector,[1]
Total Domestic Assets - Without ETA, 1979, 1984, and 1987

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Obvious ownership links without CP,[2] without CU[3]								
1979	49.8	67.7	74.7	82.3	95.2	7.69	17	relatively high
1984	44.3	60.5	67.9	77.4	90.8	6.22	24	relatively low
1987	42.2	61.4	68.8	78.3	91.0	6.00	22	relatively low
with 100 CP, 100 CU								
1984	42.3	57.8	64.8	73.9	86.9	5.70	29	relatively low
1987	40.3	58.7	65.6	74.8	87.0	5.47	28	relatively low
Full ownership links without CP, without CU								
1979	49.8	67.7	74.8	83.3	95.3	7.69	17	relatively high
1984	44.3	60.5	67.9	77.4	91.1	6.22	24	relatively low
1987	42.2	61.4	69.0	79.2	91.6	6.02	21	relatively low
with 100 CP, 100 CU								
1984	42.3	57.8	64.9	73.9	87.4	5.70	29	relatively low
1987	40.3	58.7	65.9	75.6	87.6	5.49	26	relatively low

Table 6 (concl'd.)

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Full ownership links and financial holding groups without CP, without CU								
1979	49.8	67.7	75.0	83.8	95.9	7.71	16	relatively high
1984	44.3	62.0	69.7	79.0	92.4	6.32	24	relatively low
1987	42.2	63.1	71.8	82.2	93.2	6.20	18	relatively high
with 100 CP, 100 CU								
1984	42.1	58.8	66.2	75.8	91.3	5.73	26	relatively low
1987	40.3	60.2	68.5	79.3	92.4	5.69	21	relatively low
Desjardins Group only without CU								
1979	47.7	67.0	73.5	84.1	96.0	7.07	16	relatively high
1984	42.2	61.5	70.0	79.8	92.8	6.01	21	relatively low
1987	39.8	61.7	72.3	83.0	93.6	5.90	18	relatively high
with 100 CU								
1984	40.6	59.3	67.5	77.2	91.8	5.62	24	relatively low
1987	38.7	59.9	70.2	80.7	92.9	5.60	20	relatively high

1 As defined in this study.
2 CP: Caisses populaires.
3 CU: Credit unions.

Table 7

Concentration Indices in the Financial Sector,[1] Total Domestic Assets - With ETA, 1979, 1984, and 1987

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Obvious ownership links without CP,[2] without CU[3]								
1979	40.8	62.0	72.3	81.2	94.9	5.87	19	relatively high
1984	36.0	57.3	68.7	77.8	91.5	4.93	23	relatively low
1987	35.8	57.3	71.3	80.7	92.9	5.11	20	relatively high
with 100 CP, 100 CU								
1984	34.8	55.4	66.4	75.2	88.5	4.60	27	relatively low
1987	34.7	55.5	69.1	78.2	90.1	4.79	23	relatively low
Full ownership links without CP, without CU								
1979	40.8	62.0	72.4	81.4	95.1	5.87	19	relatively high
1984	36.0	57.4	68.8	78.1	92.0	4.93	23	relatively low
1987	35.8	57.4	72.2	82.0	93.6	5.16	18	relatively high
with 100 CP, 100 CU								
1984	34.8	55.5	66.5	75.4	88.9	4.62	27	relatively low
1987	34.7	55.6	69.9	79.4	90.7	4.84	21	relatively low

Table 7 (concl'd.)

		Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
		CR4	CR8	CR12	CR20	CR50			
Full ownership links and financial holding groups without CP, without CU									
	1979	40.8	62.4	73.7	82.8	95.8	5.97	18	relatively high
	1984	37.1	58.8	71.5	80.5	93.1	5.26	20	relatively high
	1987	36.9	60.1	74.9	85.4	95.0	5.57	15	relatively high
with 100 CP, 100 CU									
	1984	35.7	56.6	68.8	77.7	91.3	4.89	23	relatively low
	1987	35.8	58.2	72.6	83.1	94.3	5.25	17	relatively high
Desjardins Group only without CU									
	1979	39.4	60.8	74.5	83.4	95.9	5.77	17	relatively high
	1984	35.7	57.1	72.5	81.2	93.3	5.14	19	relatively high
	1987	35.5	58.6	75.4	86.0	95.2	5.45	15	relatively high
with 100 CU									
	1984	34.8	55.6	70.6	79.1	92.3	4.86	22	relatively low
	1987	34.8	57.4	73.9	84.3	94.6	5.25	16	relatively high

1 As defined in this study.
2 CP: Caisses populaires.
3 CU: Credit unions.

Table 8

Concentration Indices in the Financial Sector,[1] Total Mortgage Loans, 1967, 1979, 1984, and 1987

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Obvious ownership links								
without CP,[2] without CU[3]								
1967	28.3	44.0	55.8	71.6	94.0	3.56	26	relatively low
1979	28.7	46.0	58.1	73.4	93.3	3.68	26	relatively low
1984	29.1	48.6	62.0	76.0	93.9	4.02	24	relatively low
1987	34.7	54.8	66.5	81.3	95.3	4.85	20	relatively low
Full ownership links								
without CP, without CU								
1979	28.7	46.1	58.3	73.6	93.6	3.69	25	relatively low
1984	29.1	48.8	62.2	76.1	94.4	4.04	23	relatively low
1987	34.7	54.9	67.5	83.0	96.2	4.93	18	relatively high

Table 8 (concl'd.)

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Full ownership links and financial holding groups without CP, without CU								
1979	28.7	46.4	59.5	74.8	94.8	3.77	24	relatively low
1984	31.7	51.8	66.2	79.0	95.5	4.44	21	relatively low
1987	36.7	59.9	72.2	87.4	97.8	5.51	16	relatively high
Desjardins Group only without CU								
1979	29.9	48.4	61.0	76.4	94.8	4.03	23	relatively low
1984	32.6	52.9	67.3	80.4	95.9	4.56	20	relatively high
1987	34.9	59.4	72.8	87.9	97.9	5.40	16	relatively high

1 As defined in this study.
2 CP: Caisses populaires.
3 CU: Credit unions.

Concentration in the personal and commercial loans market, whether in terms of total activity or domestic activity, remained high in 1987 (Tables 9 and 10). In fact, concentration in this market was the highest of all. In 1987, 80 per cent of the domestic market was owned by only seven financial institutions – six Canadian banks and, in seventh place, one financial holding group. Note, by way of comparison, that the inverse relation coefficient was 16 in the mortgage loan market. While concentration declined between 1979 and 1984, the Herfindahl coefficient, the inverse relation index and the Gini coefficient (Charts 2, 3, and 4) remained essentially unchanged throughout the 1984-87 period, indicating no significant change in concentration since 1984. The share of the four leading companies fell slightly, however.

As discussed in the previous section, financial holding groups are not particularly active in the other loans market. For this reason, the wave of mergers and acquisitions has had little impact on concentration levels in this market.

Concentration in the *deposits market* in 1987 was, as in 1984, fairly high (Tables 11 and 12). It exceeded concentration on the mortgage loan market but was lower than that in the other loans market. The share of the four largest companies declined slightly between 1984 and 1987. The decline was smaller than that recorded for 1979-84, however. When worldwide activities were considered, the top four firms, in 1987, were the same four banks as in 1984. In the domestic market, however, one financial holding group entered the ranks of the top four. The Herfindahl index and the Gini coefficient (Charts 2, 3 and 4) indicate a very slight increase in concentration. The restructuring of the financial system appears to have had more of an impact in the deposits market than in the personal and commercial loans market.

It should be noted that concentration indices have some inherent limitations. For example, concentration in a market is underestimated when non-substitutes are included or when the market is regional instead of national but national data are used. In the financial services industry, regional data are virtually non-existent, and it is difficult to make the adjustments necessary to take regional particularities in account.

On the other hand, concentration is overestimated when substitutes are excluded from the market definition. For example, it could be argued that concentration on the deposits market is slightly overestimated because the deferred short-term annuities offered by life-insurance companies are close substitutes for the deposits offered by banks, trusts, and financial cooperatives, even though they are not identified as such.

Concentration may also be overestimated when foreign firms are active in domestic markets. This can happen in two ways: foreign firms may establish themselves in Canada, and Canadians may purchase financial services from foreign firms located outside the country.

Table 9

Concentration Indices in the Financial Sector,[1]
Other Loans - Worldwide Activities, 1967, 1979, 1984, and 1987

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Obvious ownership links without CP,[2] without CU[3]								
1967	72.9	93.6	96.2	98.4	99.7	16.00	5	high
1979	72.8	95.0	96.7	98.4	99.8	15.60	5	high
1984	67.7	87.1	90.4	93.3	97.7	13.34	6	high
1987	66.9	88.5	91.2	93.6	98.0	13.28	6	high
Full ownership links without CP, without CU								
1979	72.7	94.9	96.7	98.4	99.8	15.56	5	high
1984	67.7	87.1	90.4	93.3	97.8	13.35	6	high
1987	66.9	88.6	91.3	93.9	98.1	13.30	6	high

Table 9 (concl'd.)

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Full ownership links and financial holding groups without CP, without CU								
1979	72.7	94.9	96.7	98.4	99.8	15.56	5	high
1984	67.7	87.1	90.6	93.5	98.0	13.36	8	high
1987	66.8	88.7	91.5	94.2	98.4	13.29	6	high
Desjardins Group only without CU								
1979	71.2	94.0	96.5	98.3	99.8	14.98	5	high
1984	65.9	86.0	96.0	93.4	98.0	12.74	6	high
1987	64.2	87.9	91.3	94.3	98.4	12.39	6	high

1 As defined in this study.
2 CP: Caisses populaires.
3 CU: Credit unions.

Table 10

Concentration Indices in the Financial Sector,[1] Other Loans - Domestic Activities, 1979, 1984, and 1987

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Obvious ownership links without CP,[2] without CU[3]								
1979	72.2	94.4	96.6	98.3	97.7	15.65	5	high
1984	65.4	82.9	86.9	90.7	96.8	12.35	7	high
1987	63.3	84.8	88.2	91.6	97.4	12.66	6	high
Full ownership links without CP, without CU								
1979	72.2	94.4	96.6	98.3	99.7	15.65	5	high
1984	65.4	82.9	87.0	90.9	97.0	12.36	7	high
1987	63.3	84.8	88.5	91.9	97.5	12.67	6	high

Table 10 (concl'd.)

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Full ownership links and financial holding groups without CP, without CU								
1979	72.2	94.4	96.6	98.3	99.8	15.65	5	high
1984	65.4	82.9	87.0	91.0	97.1	12.36	7	high
1987	63.3	84.8	88.5	92.2	97.7	12.66	6	high
Desjardins Group only without CU								
1979	70.0	93.2	96.4	98.2	99.8	14.82	5	high
1984	62.7	82.3	86.9	91.1	97.2	11.53	7	high
1987	59.4	84.6	88.6	92.3	97.8	11.54	7	high

1 As defined in this study.
2 CP: Caisses populaires.
3 CU: Credit unions.

Table 11

Concentration Indices in the Financial Sector,[1] Deposits - All Activities, 1967, 1979, 1984, and 1987

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Obvious ownership links without CP,[2] without CU[3]								
1967	70.1	88.2	93.2	97.2	99.9	14.09	6	high
1979	61.3	83.6	90.1	95.7	99.4	11.48	7	high
1984	57.9	77.3	84.7	90.7	96.5	9.95	10	relatively high
1987	55.2	80.4	86.4	91.6	96.7	9.76	8	high
Full ownership links without CP, without CU								
1979	61.3	83.6	90.2	95.7	99.5	11.48	7	high
1984	57.9	77.3	84.8	90.8	96.8	9.97	10	relatively high
1987	55.2	80.4	87.4	92.3	97.2	9.79	8	high

Table 11 (concl'd.)

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Full ownership links and financial holding groups without CP, without CU								
1979	61.3	83.6	90.2	95.7	99.5	11.46	7	high
1984	57.1	77.3	84.8	90.9	96.9	9.98	12	relatively high
1987	55.2	80.4	87.5	92.4	97.3	9.80	8	high
Desjardins Group only without CU								
1979	58.3	81.6	89.9	95.7	99.5	10.64	8	high
1984	54.9	75.9	84.5	91.0	97.1	9.26	10	relatively high
1987	51.8	77.7	87.6	92.9	97.5	9.04	9	relatively high

1 As defined in this study.
2 CP: Caisses populaires.
3 CU: Credit unions.

Table 12

Concentration Indices in the Financial Sector,[1] Deposits - Domestic Activities, 1979, 1984, and 1987

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Obvious ownership links without CP,[2] without CU[3]								
1979	57.5	79.3	87.7	94.5	99.2	10.28	9	relatively high
1984	51.1	70.4	80.3	87.4	95.3	8.33	12	relatively high
1987	48.2	72.0	80.6	88.0	95.3	7.99	12	relatively high
Full ownership links without CP, without CU								
1979	57.5	79.3	87.8	94.5	99.3	10.38	9	relatively high
1984	51.2	70.4	80.4	87.9	95.7	8.34	12	relatively high
1987	48.2	72.0	82.0	89.0	95.9	8.04	11	relatively high

Table 12 (concl'd.)

	Concentration ratios					Herfindahl index	Inverse relation index	Characterization of concentration
	CR4	CR8	CR12	CR20	CR50			
Full ownership links and financial holding groups without CP, without CU								
1979	57.5	79.3	87.8	94.5	99.3	10.28	9	relatively high
1984	51.2	70.4	80.4	88.0	95.8	8.34	12	relatively high
1987	48.2	72.0	82.2	89.2	96.2	8.05	11	relatively high
Desjardins Group only without CU								
1979	53.8	77.3	87.7	94.5	99.4	9.46	9	relatively high
1984	47.7	69.7	80.4	88.5	96.1	7.74	12	relatively high
1987	45.3	71.0	82.7	90.1	96.5	7.54	11	relatively high

1 As defined in this study.
2 CP: Caisses populaires.
3 CU: Credit unions.

The first type of involvement is covered by this study, since the activities of foreign financial institutions with Canadian charters are included; however, it was not possible to include Canadians' purchases of the services of foreign institutions located outside of Canada because of lack of data. Observers of the international financial scene agree, however, that the international financial operations of lenders and borrowers have grown dramatically over the past decade compared with purely domestic transactions. Not all financial transactions have an international dimension, however. Indeed, there is an important distinction between financial services that are tradable on international financial markets at a given time and those that are not. The first group includes, for example, large deposits and loans to major businesses. It is known as the wholesale market, i.e., the market of large borrowers and investors.

The retail market, which serves small- and medium-sized borrowers and depositors, currently falls under services that are nontradable internationally. Thus it is less directly affected by internationalization than is the wholesale market. In this latter market, measuring purely domestic concentration overestimates actual concentration, since foreign suppliers located outside the country have access to the Canadian market. This bias is very weak, if not nil, in the retail market.

In the present study, it was not possible to distinguish between the retail and wholesale markets.

Chart 2

Gini Coefficients
Worldwide Activities – Obvious Ownership Links (without ETA): Assets, Mortgage Loans, Other Loans, and Deposits

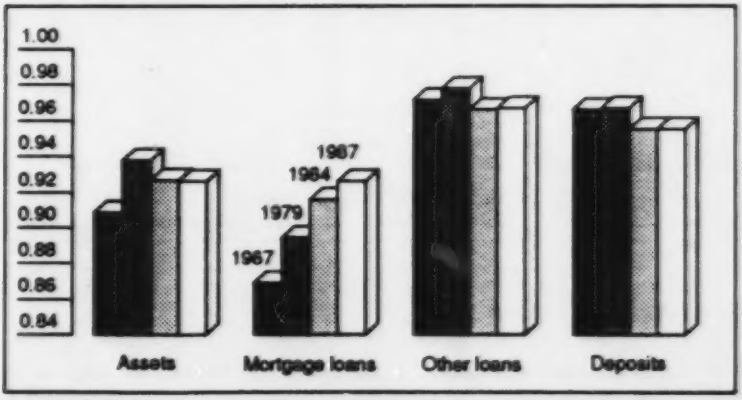


Chart 3

Gini Coefficients
Domestic Activities – Highest Ownership Level (without ETA): Assets, Other Loans, and Deposits

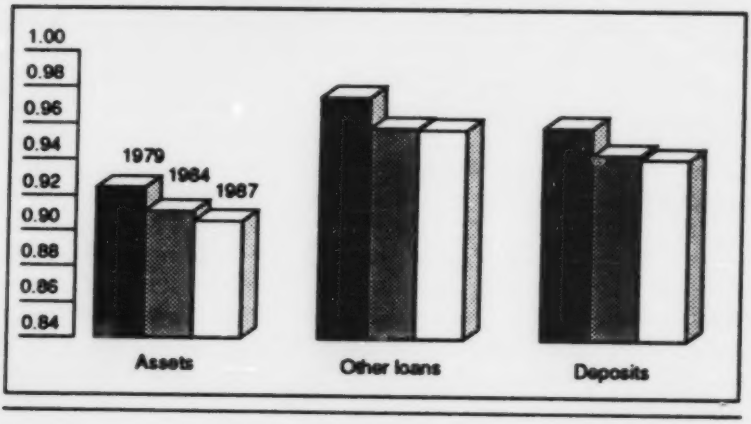
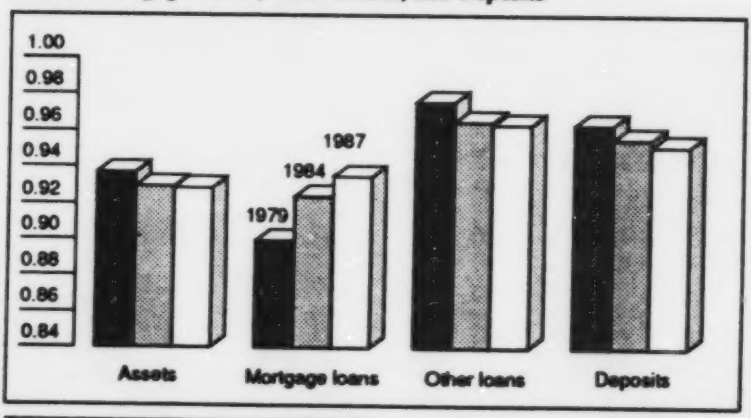


Chart 4

Gini Coefficients
Worldwide Activities – Highest Ownership Level (without ETA): Assets, Mortgage Loans, Other Loans, and Deposits

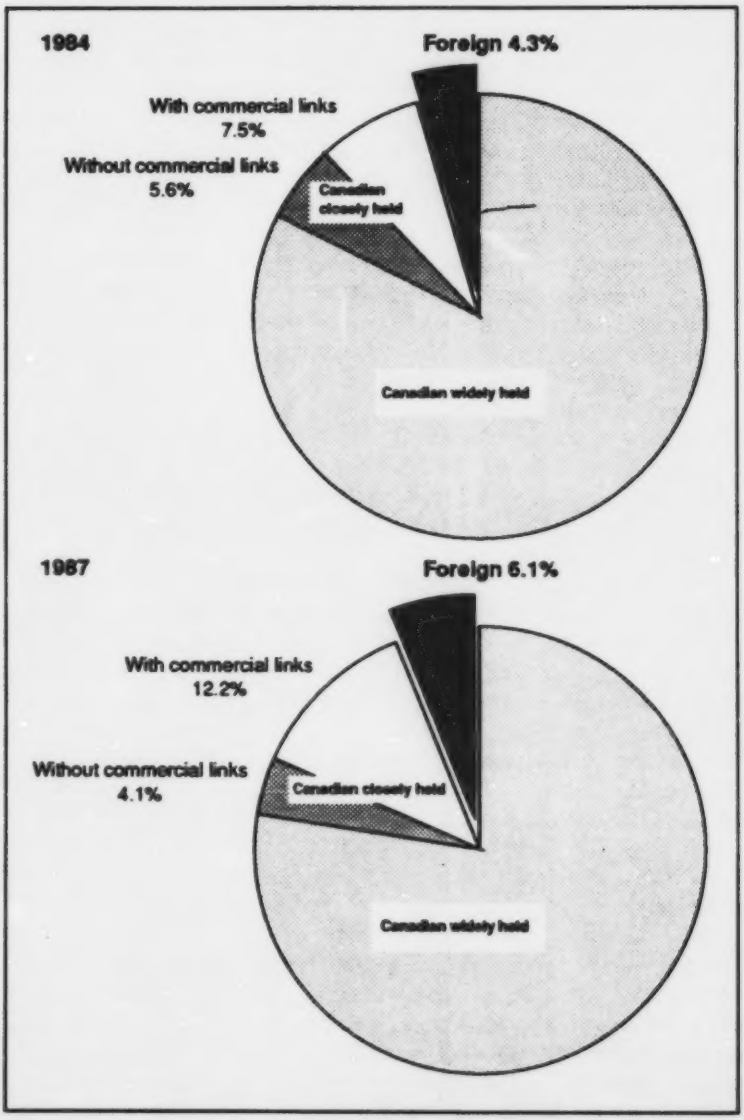


Ownership Concentration

While total-assets concentration is relatively high, capital concentration is much lower (Chart 5). In 1984, for example, 83 per cent of the assets of the

Chart 5

Distribution of Assets of 50 Largest Financial Institutions, by Type of Ownership, 1984 and 1987



50 largest financial institutions included in our study, whose total assets represented almost 95 per cent of the total assets of the 343 institutions included at the highest ownership level, belonged to 21 widely held Canadian financial institutions. These institutions included 11 Schedule A chartered banks, seven mutual life-insurance companies, two financial holding groups (Desjardins and Laurentian), and one trust company (Canada Trust). The 16 more closely held Canadian corporations accounted for only 13 per cent of the assets of financial institutions. More than half of these assets belonged to financial holding groups with upstream commercial links. Finally, only 4 per cent of the total assets of the 50 largest institutions belonged to foreign interests, divided among 13 foreign institutions. In 1987, by way of comparison, 21 foreign-owned institutions were members of the "50 club," accounting for 6 per cent of assets.

By 1984, 10 new foreign banks had earned places in the top 50, while two had dropped out. For example, the Lloyds Bank and the Hongkong Bank, which had acquired two widely held Canadian banks in financial difficulty, were ranked 71st and 73rd in 1984 but occupied the 21st and 27th spots, respectively, in 1987.

The share of widely held Canadian financial institutions fell by 5 percentage points between 1984 and 1987, while the share of closely held institutions rose by 3 percentage points. Among the latter, financial institutions with upstream commercial links saw their share increase at the expense of institutions without commercial links.

These developments may be attributed primarily to the relatively strong growth of financial holding groups (since 46 per cent of their assets belonging to financial institutions with upstream commercial links (1987)) and to the takeover of Canada Trust by commercial interests.

Nevertheless, in 1987 almost 78 per cent of the assets of the 50 largest institutions belonged to widely held Canadian institutions. The number of these institutions ranked among the top 50, however, it fell from 21 to 16.

Conclusion

Concentration levels vary depending on the markets being studied. In both 1987 and 1984, the mortgage loan market was less concentrated than the deposits market and the total personal and commercial loans market. In the latter market, concentration may be considered high, remaining essentially unchanged from 1984 to 1987. The concentration of total deposits appears to have declined over the 1984-87 period, depending on the index used, while concentration in the mortgage loan market continued to rise. While the share

of the top four companies rose in the mortgage loan market (the only time this index agreed with all the other indices), it fell slightly in the two other markets, indicating that the financial system is in the process of restructuring. This restructuring is even more evident when total assets are examined. In the original study, it was noted that the decline in assets concentration between 1979 and 1984 may prove to be short-term if financial holding groups speed up their growth through mergers and takeovers. The present study serves to confirm that this process has already begun. As the growth of financial holding groups overtakes that of chartered banks in the coming years, the degree of concentration will likely rise. However, the internationalization of world markets should serve to counterbalance this trend slightly in those markets exposed to international competition.

Appendix

Table A-1

Selected Data on Local Credit Unions, 1979, 1984, and 1987

	Total assets		
	1979	1984	1987
Canada ($ millions)	27,337.7	40,624.9	55,060.3
Quebec ($ millions)	12,447.7	19,497.9	28,535.7
Quebec share (per cent)	45.5	48.0	51.8
100 largest caisses populaires	..	5,541.0	8,474.9
100 largest credit unions	..	12,736.6	20,177.6
Share of 100 largest caisses populaires and 100 largest credit unions	..	45.0	52.0
Overall share of 100 largest caisses populaires and 100 largest credit unions	..	79.3	88.5

Source Statistics Canada, *Financial Institutions, Financial Statistics*, Cat. 61-006, first quarter 1980, first quarter 1985, and first quarter 1988; *Liste des 100 plus grandes caisses populaires*, Mouvement Desjardins, unpublished, 1984 and 1987; Canadian Co-operative Credit Society, *List of the 100 Largest Local Credit Unions in Canada*, 1984 and 1987.

Table A-2

Mortgage Loans, Other Loans, and Deposits of Local Credit Unions, 1979, 1984, and 1987

	Mortgage loans	Other loans	Deposits
1979			
Canada ($ millions)	13,751.3	7,264.1	21,769.6
Quebec ($ millions)	6,845.2	2,706.8	10,159.4
Quebec share (per cent)	47.2	37.3	46.7
1984			
Canada ($ millions)	19,940.0	10,678.8	35,056.7
Quebec ($ millions)	9,292.4	5,525.6	16,889.8
Quebec share (per cent)	46.4	51.7	48.2
1987			
Canada ($ millions)	27,984.6	15,085.2	46,927.7
Quebec ($ millions)	15,087.0	8,528.3	23,972.2
Quebec share (per cent)	53.9	56.5	51.0

Source Statistics Canada, *Financial Institutions, Financial Statistics*, Cat. 61-006, first quarter 1980, first quarter 1985, and first quarter 1988; *Liste des 100 plus grandes caisses populaires*, Mouvement Desjardins, unpublished, 1984 and 1987; Canadian Co-operative Credit Society, *List of the 100 Largest Local Credit Unions in Canada*, 1984 and 1987.

Table B-1

Description of Calculations Involved in Various Measures of Concentration, 1967, 1979, 1984, and 1987

	Worldwide activities							
	Without ETA				With ETA			
	1967	1979	1984	1987	1967	1979	1984	1987
Total assets concentration:								
Obvious ownership links								
without CP, without CU	x	x	x	x	x	x	x	x
with 100 CP, with 100 CU	..	..	x	x	..	..	x	x
Full ownership links								
without CP, without CU	..	x	x	x	..	x	x	x
with 100 CP, with 100 CU	..	..	x	x	..	..	x	x
Full ownership links and financial holding group								
without CP, without CU	..	x	x	x	..	x	x	x
with 100 CP, with 100 CU	..	..	x	x	..	..	x	x
Desjardins Group only								
without CU	..	x	x	x	..	x	x	x
with 100 CU	..	..	x	x	..	..	x	x

Table B-1 (cont'd.)

	Worldwide activities							
	Without ETA				With ETA			
	1967	1979	1984	1987	1967	1979	1984	1987
Mortgage loan market concentration:								
Obvious ownership links without CP, without CU	x	x	x	x	..	..	..	..
Full ownership links without CP, without CU	..	x	x	x	..	..	..	..
Full ownership links and financial holding group without CP, without CU	..	x	x	x	..	..	..	..
Desjardins Group only without CU	..	x	x	x	..	..	..	..
Other loan market concentration:								
Obvious ownership links without CP, without CU	x	x	x	x	..	..	..	..
Full ownership links without CP, without CU	..	x	x	x	..	..	..	..
Full ownership links and financial holding group without CP, without CU	..	x	x	x	..	..	..	..
Desjardins Group only without CU	..	x	x	x	..	..	..	..

Table B-1 (concl'd.)

Deposit market concentration:	Worldwide activities							
	Without ETA				With ETA			
	1967	1979	1984	1987	1967	1979	1984	1987
Obvious ownership links without CP, without CU	x	x	x	x	..	..	..	..
Full ownership links without CP, without CU	..	x	x	x	..	..	..	..
Full ownership links and financial holding group without CP, without CU	..	x	x	x	..	..	..	..
Desjardins Group only without CU	..	x	x	x	..	..	..	..

x: Indicates this calculation done.
CP: Caisses populaires.
CU: Credit unions.

Table B-2

Description of Calculations Involved in Various Measures of Concentration, 1967, 1979, 1984, and 1987

	Domestic activities							
	Without ETA				With ETA			
	1967	1979	1984	1987	1967	1979	1984	1987
Total assets concentration:								
Obvious ownership links								
without CP, without CU	..	x	x	x	..	x	x	x
with 100 CP, with 100 CU	..	..	x	x	..	..	x	x
Full ownership links								
without CP, without CU	..	x	x	x	..	x	x	x
with 100 CP, with 100 CU	..	..	x	x	..	..	x	x
Full ownership links and financial holding group								
without CP, without CU	..	x	x	x	..	x	x	x
with 100 CP, with 100 CU	..	..	x	x	..	..	x	x
Desjardins Group only								
without CU	..	x	x	x	..	x	x	x
with 100 CU	..	..	x	x	..	..	x	x

Table B-2 (cont'd.)

	Domestic activities							
	Without ETA				With ETA			
	1967	1979	1984	1987	1967	1979	1984	1987
Mortgage loan market concentration:								
Obvious ownership links without CP, without CU	..	..	..	..	..	..	..	..
Full ownership links without CP, without CU	..	..	..	..	..	..	..	..
Full ownership links and financial holding group without CP, without CU	..	..	..	..	..	..	..	..
Desjardins Group only without CU	..	..	..	..	..	..	..	..
Other loan market concentration:								
Obvious ownership links without CP, without CU	..	x	x	x	..	..	..	..
Full ownership links without CP, without CU	..	x	x	x	..	..	..	..
Full ownership links and financial holding group without CP, without CU	..	x	x	x	..	..	..	..
Desjardins Group only without CU	..	x	x	x	..	..	..	..

Table B-2 (concl'd.)

	Domestic activities							
	Without ETA				With ETA			
	1967	1979	1984	1987	1967	1979	1984	1987
Deposit market concentration:								
Obvious ownership links without CP, without CU	..	x	x	x	..	..	..	..
Full ownership links without CP, without CU	..	x	x	x	..	..	..	..
Full ownership links and financial holding group without CP, without CU	..	x	x	x	..	..	..	..
Desjardins Group only without CU	..	x	x	x	..	..	..	..

x: Indicates this calculation done.
CP: Caisses populaires.
CU: Credit unions.

Table C-1

Total Assets, Mortgage Loans, Other Loans, and Deposits Held by Diversified Financial Holding Groups,[1] 1979, 1984, and 1987 ($ millions)

	Total assets			Mortgage loans		
	1979	1984	1987	1979	1984	1987
Desjardins Group[2]	11,900	23,243	34,656	5,302	10,225	18,243
Trilon Financial Corporation[3]	. . .	17,466	27,254	. . .	8,256	11,819
Power Financial Corporation[4]	6,693	13,907	26,122	3,048	5,790	11,931
Central Capital Corporation	. . .	. . .	12,531	. . .	. . .	6,329
Laurentian Group[6]	1,494	3,573	10,663	419	632	3,734
Crown Financial Group	2,032	4,929	9,120	715	1,621	3,599
Industrial-Alliance Group[8]	. . .	. . .	6,622	. . .	. . .	3,900
Metropolitan Life Insurance Co.[9]	. . .	. . .	4,657	. . .	. . .	1,423
Financial Trustco[10]	. . .	. . .	2,154	. . .	. . .	879[e]
The Cooperators[11]	. . .	. . .	1,378	. . .	. . .	531
Prêt et Revenu Group	181	461	636	95	242	453
Traders Group[5]	3,101	4,122	. . .	1,288	1,633	. . .
Eaton Financial Services[7]	623	1,084	. . .	417	757	. . .
Total	26,024	68,785	135,799	11,284	29,156	62,841

Table C-1 (cont'd.)

	Other loans			Deposits		
	1979	1984	1987	1979	1984	1987
Desjardins Group[2]	2,509	6,443	10,848	9,439	19,189	28,583
Trilon Financial Corporation[3]	. . .	2,030	5,332	. . .	10,133	22,372
Power Financial Corporation[4]	267	493	694	1,128	2,330	6,624
Central Capital Corporation	. . .	. . .	2,487	. . .	. . .	9,177
Laurentian Group[6]	63	153	945	. . .	. . .	4,283
Crown Financial Group	152	324	330	-	71	367
Industrial-Alliance Group[8]	. . .	. . .	178	. . .	. . .	3,771
Metropolitan Life Insurance Co.[9]	. . .	. . .	138	. . .	. . .	606
Financial Trustco[10]	. . .	. . .	143	. . .	. . .	1,153
The Cooperators[11]	. . .	. . .	82	. . .	. . .	460
Prêt et Revenu Group	4	22	22	114	341	466
Traders Group[5]	872	1,232	. . .	1,796	2,770	. . .
Eaton Financial Services[7]	3	5	. . .	475	712	. . .
Total	3,870	10,702	21,195	12,952	35,546	77,862

Table C-1 (concl'd.)

1 Only the activities of financial institutions are included. Unless otherwise indicated, entries are presented on a consolidated basis. Trust companies' estate, trust and agency business is excluded; assets of segregated funds in life insurance are included, since they belong to insurance companies and appear on their balance sheets.
2 Transactions between the Caisse centrale, the federations and the caisses populaires have been excluded, but the activities of the other members of the Group had to be included on a non-consolidated basis.
3 Trilon Financial Corporation was created in 1982.
4 Activities are presented on a non-consolidated basis.
5 In 1987, Central Capital Corporation took over the Traders Group. The parent company, Central Capital Corporation, was formed in 1987.
6 Figures were calculated as follows: consolidated returns from the Laurentian Group Corporation plus returns from the Laurentian Mutual Management Corporation. Since 1984, the Group has acquired (among other assets) Eaton Financial Services and has entered into an association with the investment firm Geoffrin-Leclerc. In 1987, the Group increased its holdings in the Montreal City and District Savings Bank, which then became the Laurentian Bank (Schedule B).
7 Acquired by the Laurentian Group in 1986.
8 In 1986, Industrielle Compagnie d'assurance sur la vie and Alliance Compagnie mutuelle d'assurance-vie merged to become Industrial-Alliance. In 1987, the Industrial-Alliance Financial Corporation increased its holdings in General Trust of Canada to 63 per cent.
9 The insurance company began commercial trust operations in 1987. In 1986, it acquired the Morguard group of institutional investors.
10 In 1986, Financial Trustco acquired Morgan Bancorp Inc. This acquisition netted Morgan Trust, Westbury Life and NFBC Financial Services Ltd. In 1987, Financial Trustco obtained a majority interest in Walwynn Inc. In late 1988, Financial Trustco had fallen into financial difficulty and was purchased by Central Guarantee Trustco, which in turn belongs to Central Capital Corporation.
11 In the spring of 1985, the Cooperators Group of companies acquired a majority interest in Guardian Trustco Inc.

Source Estimates based on various company annual reports; reports of the Superintendent of Insurance for Canada; concise financial statements of property and general-risk insurance companies, concise financial statements of life-insurance companies and mutual funds; concise financial statements of trust and loan companies; annual reports of the Superintendent of Insurance, Government of Quebec.

Table C-2

Shares of Diversified Financial Holding Groups in Total Assets, Loans, and Deposits of All Financial Institutions,[1] 1979, 1984, and 1987 ($ millions)

	Total assets			Mortgage loans		
	1979	1984	1987	1979	1984	1987
Desjardins Group	2.93	3.43	3.90	6.15	8.36	9.75
Trilon Financial Corporation	. . .	2.58	3.07	. . .	6.78	6.31
Power Financial Corporation	1.65	2.06	2.94	3.53	4.74	6.37
Central Capital Corporation	. . .	. . .	1.41	. . .	. . .	3.38
Laurentian Group	0.37	0.53	1.20	0.49	0.52	2.00
Crown Financial Group	0.50	0.73	1.02	0.82	1.33	1.93
Industrial-Alliance Group	. . .	. . .	0.75	. . .	. . .	2.09
Metropolitan Life Insurance Co.	. . .	. . .	0.52	. . .	. . .	0.76
Financial Trustco	. . .	. . .	0.23	. . .	. . .	0.47
The Cooperators	. . .	. . .	0.16	. . .	. . .	0.28
Prêt et Revenu Group	0.04	0.07	0.07	0.11	1.33	0.24
Traders Group	0.76	0.61	. . .	1.49	0.20	. . .
Eaton Financial Services	0.15	0.16	. . .	0.48	0.62	. . .
Total	6.42	10.17	15.30	13.08	23.88	33.60

Table C-2 (concl'd.)

	Other loans			Deposits		
	1979	1984	1987	1979	1984	1987
Desjardins Group	2.89	5.06	7.29	5.14	6.82	7.86
Trilon Financial Corporation	. . .	1.59	3.58	. . .	3.60	6.15
Power Financial Corporation	0.31	0.39	0.47	0.61	0.83	1.82
Central Capital Corporation	. . .	. . .	1.67	. . .	. . .	2.52
Laurentian Group	0.07	0.13	0.63	-	-	1.18
Crown Financial Group	0.18	0.25	0.22	-	0.02	0.10
Industrial-Alliance Group	. . .	. . .	0.12	. . .	. . .	1.04
Metropolitan Life Insurance Co.	. . .	. . .	0.09	. . .	. . .	0.17
Financial Trustco	. . .	. . .	0.10	. . .	. . .	0.32
The Cooperators	. . .	. . .	0.05	. . .	. . .	0.13
Prêt et Revenu Group	--	0.02	0.01	0.06	0.12	0.13
Traders Group	1.01	0.97	0.01	0.98	0.98	. . .
Eaton Financial Services	--	--	. . .	0.26	0.25	. . .
Total	4.47	8.41	14.24	7.06	12.62	21.42

1 Excluding assets of trusteed pension plans.
Source Appendix Table C-1; Bank of Canada Review, various years; Statistics Canada, Financial Institutions, Financial Statistics, Cat. 61-006, various years.

Table D

Asset Shares of Four Largest Companies, Based on Sales - 33 Major Non-Financial Industries, Canada, 1986

Industry	CR4
Agriculture, forestry, and fishing	1.0
Mines	
Metal mines	58.7
Mineral fuels	28.3
Other mines	18.7
Manufacturing	
Food	16.8
Beverage	30.3
Tobacco products	99.0
Rubber products	60.0
Leather products	19.5
Yarn and cloth mills	39.2
Knitting mills	10.2
Clothing industry	6.9
Wood industry	25.2
Furniture industry	8.1
Paper and allied products	39.2
Printing, publishing, and allied industries	34.7
Primary metals	61.2
Metal products	19.8
Machinery	12.7
Transportation equipment	43.1
Electrical appliances and equipment	38.5
Non-metallic mineral products	22.5
Petroleum and coal products	67.8
Chemical and chemical products	26.2
Miscellaneous manufacturing	10.9
Construction	2.4
Public utilities	
Transportation	57.4
Storage	70.4
Communications	72.0
Utilities	73.8
Trade	
Wholesale trade	10.6
Retail trade	16.7
Services (excluding financial services)	6.7

Source Statistics Canada, Cat. 61-210 - Cansim, 1986.

Notes

1 W. Krause and J. Lothian, "Measurement of Canada's level of corporate concentration," *Canadian Economic Observer*, Statistics Canada, Ottawa, January 1989.

2 To the best of our knowledge, there have so far been no empirical studies on the existence of economies of scope.

3 Non-systemic risk refers to diversifiable risk. An investment portfolio or firm that is perfectly diversified has absolutely no systemic risk, i.e,. non-diversifiable risk linked to the economic system at large.

4 A. Mayrand, "Concentration and competition in the financial sector," Economic Council of Canada, Discussion Paper 349, Ottawa, May 1988.

5 A. Mayrand, "Concentration and competition in the financial sector," pp. 10-11.

6 The Gini coefficient is calculated as follows:

$1 + (1/n) - [(2/n)\ (S_1 + 2S_2 + \ldots nS_n)]$ for $S_1 \geq \ldots \geq S_n$ and $\Sigma\ S_i = 1$, where S_i is the share of assets of firm i.

7 For the rationale for choosing these years, see A. Mayrand, 1988, pp. 11-12.

8 Information on control of financial institutions is derived mainly from Statistics Canada's publication *Inter-Corporate Ownership*, Cat. 61-517.

9 Worldwide assets are the most appropriate evaluation criterion for calculating the concentration of political and social power, since they reflect the global importance of the firm, whether it be local, national, or multinational. Domestic activities are better suited to market-based analysis, since our study is concerned with concentration on Canadian markets.

10 See *A Framework for Financial Regulation*, a research report by the Economic Council of Canada (Ottawa: Supply and Services Canada, 1987).

11 Excluding assets held by trusteed pension plans.

12 It should be noted that Montreal Trustco was acquired by Bell Canada Enterprises in 1989.

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